

ABSTRACT OF THE DISCLOSURE

A method, system, and apparatus provide for the creation and use of a holographic filter. The holographic filter has multiple superpositioned holograms within a volume holographic medium. These superpositioned holograms synthesize a filter
5 shape with multiple peaks at specified positions. The shape of the holographic filter matches a spectrum of a substance. The holographic filter may then be used (e.g., in a spectrometer) to simultaneously detect peaks in the spectrum of the matching substance.

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